IN THE SPECIFICATION:

Please amend the title of the invention to:

A MULTIPLE BATTERY SYSTEM

Please replace the indicated paragraphs with the following rewritten paragraph:

[0009] Additional attempts at achieving a commercially successful system have been made that would fit standard electrical cable configurations, but these have also failed. Vehicle battery systems like those shown in U.S. Patent No. 5,002,840 to ~~Klenenow~~ Klebenow et al. and U.S. Patent No. 5,162,164 to Dougherty et. al. (the ~~"~~'840 and ~~"~~'164 patents), show a main and a reserve unit, separated simply by a one-way diode for maintaining the reserve unit in the charged condition during non-use. The main and reserve batteries of the ~~"~~'840 and ~~"~~'164 patents are coupled in parallel with a diode and resistor therebetween and would require only the standard two-post battery configuration. In a normal operating mode a resistor, for instance a variable resistance, positive temperature coefficient resistor, precedes the one-way diode. The variable or positive coefficient resistor steps down the amperage to limit the amount of current, and, hence, the amount of heat generated by the diode. The diode prevents the reserve battery from discharging to the main battery while allowing current to reach the battery, but it is limited to providing a trickle charge to the reserve battery for recharging. A shunt is provided that is engaged in discharge scenarios to effectively bypass the resistor and diode and put the two battery units in parallel without the diode, and thereby engage the reserve battery. The entire system is coupled through the negative terminals of each battery that are brought into contact in the parallel circuit.

[0010] These circuits and battery configurations have several disadvantages. The diodes described in the '840 and '164 patents are low capacity diodes. These low capacity diodes are problematic in that they have a limited current carrying capacity. Since the low capacity diodes have a relatively small current carrying capacity, they may be destroyed if excessive current is driven through them. For instance if the full current capacity of a vehicle electrical system were driven through the diode alone, the diode would be destroyed. Thus these systems need to step down the current with a resistor. This limits the amount of current used to charge the reserve battery. Therefore, these devices and other devices like them are limited to charging the reserve battery with a low current or "trickle" charge, taking a significant amount of time to recharge this reserve battery. The long duration to charge the reserve battery is a significant disadvantage of such devices in discharge scenarios.

[0012] Thus, in a discharge scenario, the device of the '840 and '164 patents would put added stress on the reserve battery and, potentially, require a long cycle time to recharge the reserve electrical power stored therein. This would be an especially grave problem if the vehicle were to have a short or other electrical system failure, severely limiting the operating time of the vehicle on just the reserve battery.

[0013] Similarly, U.S. Patent 5,256,502 to Kump discloses a set of plates and plate frames, movable bus bars, and circuitry components, including a diode in the circuitry that allows for recharging of a reserve battery defined from the set of plates and engaged by a switch. The diode prevents current from being drawn from the reserve battery unless a switch is turned to a reserve setting. Similar to the '840 and '164 patents, in the '502 patent when the reserve battery plates

are selectively engaged, it puts the main and reserve batteries in parallel with each other upon engagement of the switch. This solution has the same problems as the '840 and '164 patents, and, similarly couples the negative terminals of the two batteries. The reserve battery is saddled with the load of the electrical system and the load of the discharged main battery when trying to start from a discharge scenario, as engagement draws the reserve electrical energy in the system down. There is no suggestion in any of the aforementioned references of any way to overcome this problem, and in the case of the "'502 patent, there is no way to electrically isolate the reserve battery as it is composed of plates shared with the main battery.

[0014] In U.S. Patent 6,121,750 to Hwa, a two_battery system is disclosed having a microprocessor controlled switch. The Hwa device contains two twelve-volt batteries in a single housing sharing a common negative terminal end and a single positive terminal. The secondary battery is provided for intermittent engagement to fulfill requirements for short duration, high current output situations. A switch box is provided to permit switching from just the main battery to engaging the main and secondary battery. Again, the batteries are in parallel when engaged and would be poorly equipped to deal with a discharge scenario, for reasons similar to those previously discussed in regards to the other references. Furthermore, there is no indication or suggestion of a diode or similar device provided in the circuitry of the "'750 patent for charging the secondary battery and, thus, the secondary battery is not necessarily kept in a charged state, because the secondary battery is only providing additional cranking power.

[0028] In accordance with one object of an exemplary embodiment, the cells of the main battery are disposed along the longitudinal axis of the battery housing and above the auxiliary cell

housing. The cells of the auxiliary battery can be approximately one-quarter the height of the main cells. In the exemplary embodiment the auxiliary cells are disposed below the main battery. This configuration renders the subject battery system interchangeable with a wide range of conventional two-terminal automotive batteries.

[0030] According to a further object of the invention, the switched multiple battery system is configured for disposition within a vehicle for electrical communication with conventional vehicle battery cables. In the event the main battery output is too low to start the vehicle, the operator manipulates the switch to the auxiliary position, thereby bringing the auxiliary battery online, which is maintained in the fully charged state by the charging diode circuit. Upon starting the vehicle, the operator manipulates the switch back to the normal position, thereby engaging the main battery to operate and recharge from the electrical system and recharging the auxiliary batteries with the electrical system through the one-way charging circuit ~~to begin recharge~~. The main and auxiliary batteries being recharged in the conventional manner during vehicle operation.

[0043] The multiple battery system can also have an auxiliary battery discharge system. The auxiliary battery discharge system can have a controller with a timer. The timer can signal the controller to periodically change the switch position so as to discharge the auxiliary battery in the second operating position of the at least two operating positions for ~~short~~ periods and then switch back to the first operating position of the at least two operating positions.

[0044] The discharge system can also be a written instruction to manually switch the battery system to the second operating position for a ~~brief~~ period of time and then to manually switch the switching device to the first operating position.

[0047] The second operating position of the multiple battery system can put the auxiliary battery alone in series with the electrical system and prevents electrical energy in the auxiliary battery from flowing to the main battery. The one-way charging circuit can electrically isolate the main battery in the second operating position. In the first operating position, ~~the one-way charging circuit can permit~~ electrical energy from the electrical system ~~to~~ flows into ~~both~~ the main battery and through the one-way charging circuit to the at least one auxiliary battery~~ies~~, ~~but~~ the one-way charging circuit prevents electrical energy from flowing out of the at least one auxiliary battery. Further, in one exemplary embodiment of the instant invention only the positive outputs of the main battery and the at least one auxiliary battery are switched by the switching device. Additionally, when in the second operating position of the at least two operating positions, the system can fully disconnect the main battery from the electrical system and introduce only the at least one auxiliary battery.

[0050] The one-way charging circuit can comprise an at least one one-way charging diode. The at least one one-way charging ~~diode~~ circuit can also comprise an at least one silicon rectifier. The at least one silicon rectifier can be between about a 25 and 95 amperage rating. The main battery can also be a 12-volt automobile battery and the at least one silicon rectifier has a 12-volt, 45 amp rating. The charging circuit can further comprise an at least one high capacity diode and an at least one heat sink coupled to the at least one high capacity diode. The at least one high

capacity diode has between about 25 and 95 amperage rating. The at least one high capacity diode can also have a 12-volt, 45 amp rating and the at least one heat sink coupled to the high capacity diode that can have a sufficient surface area to dissipate the heat generated by the at least one diode.

[0059] The one-way charging circuit of the attachment system can comprise an at least one one-way charging diode as well. The at least one one-way charging ~~diode~~ circuit can also be for instance an at least one silicon rectifier. The at least one silicon rectifier can be between about a 25 and 95 amperage rating. The main battery can also be a 12-volt automobile battery and the at least one silicon rectifier can have a 12-volt, 45 amp rating.

Delete Paragraph 65 in its entirety

[0066] The invention also includes a ~~system~~ system, the system being a multiple battery system having a main battery with a main positive output and a main negative output and an at least one auxiliary battery having an at least one auxiliary positive output and an at least one auxiliary negative output. A main electrical circuit is also provided coupling a common positive terminal with an at least one switching device, the at least one switching device having at least two operating positions to selectively couple the main and at least one auxiliary battery to the common positive terminal. In a first operating position of the at least two operating positions electrical charge is provided to both the main battery and the at least one auxiliary battery. A controller is coupled to the main electrical circuit and switches the at least one switching device based on input from an at least one sensor.

[0067] The system can further comprise a first operating position of the at least two operating positions that couples the common positive terminal to the main positive output of the main battery and the common positive terminal to a one-way charging circuit that precedes and is coupled to the at least one auxiliary positive output on the at least one auxiliary battery. The multiple battery system may further comprise a second operating position wherein the common positive terminal is coupled through the at least one switching device to a point in the main electrical circuit, beyond the one-way charging circuit, that couples to the auxiliary positive output. ~~,~~ The main battery can be electrically isolated from the at least one auxiliary battery in the second operating position of the at least two operating positions of the at least one switching device.

[0071] The one-way charging circuit of the instant invention can for instance be, but is not limited to, an at least one one-way charging diode. In some embodiments, the at least one one-way charging ~~diode~~ circuit may further comprise an at least one silicon rectifier. In other embodiments, the at least one one-way charging ~~diode~~ circuit can be for instance, but is not limited to, an at least one Silicon Controlled Rectifier (SCR). The at least one Silicon Controlled Rectifier (SCR) can for instance be, but is not limited to, being coupled to the controller and being able to disable the coupling with the at least one auxiliary battery.

[0072] In some embodiments of the system, the at least one auxiliary battery may comprise a single auxiliary battery. In other embodiments, the at least one battery comprises a plurality of

auxiliary batteries. The at least one sensor can, in some embodiments, further comprise an at least one of: an at least one main battery voltage sensor, an at least one main battery amperage sensor, an at least one auxiliary battery voltage sensor, an auxiliary battery amperage sensor, an at least one switch position sensor. The at ~~lease~~ least one sensor can be for example, but is not limited to, an at least one VI sensor. Similarly, the controller can, in some exemplary embodiments, further comprise at least one of: an at least one microprocessor, an at least one signal processor, an at least one set of lookup tables, an at least one memory device, an at least one security protocol/encryption element and an at least one indicator element.

[0073] In some exemplary embodiments, the controller is a wireless controller system. The wireless controller system can include for instance, but is not limited to including, a wireless controller, a wireless transceiver, and an input device. The wireless input device can also include an at least one indicator element. In other exemplary embodiments, the controller can be a network interfaceable controller, where the network interfaceable controller has a network interface and a transceiver. The network interfaceable controller can be in communication with a Network Operations Center (NOC) via a network. The network interfaceable controller can couple to and communicates with the at least one switching device to detect the position of the at least one switching device and selectively engage the at least one switching device based on the input of at least one of the at least one main battery voltage sensor, the at least one main battery amperage sensor, the at least one auxiliary battery voltage sensor, and the at least one auxiliary amperage sensor.

[0079] The network can also include an at least one controlled switching device that has at least two operating positions, a first operating position of the at least two operating positions coupling a common positive terminal to a main positive output of the main battery and to a one-way charging circuit that precedes and is coupled to an at least one auxiliary positive output of the at least one auxiliary battery and a second operating position wherein the common positive terminal is coupled to the at least one auxiliary positive output of the at least one auxiliary battery at a point in the system beyond the one-way charging circuit, effectively isolating the main battery by directly connecting the at least one auxiliary battery.

[0081] The at least one network interfaceable controller of the network controlled multiple battery system can for instance include, but is not limited to, an at least one microprocessor, an at least one signal transmitter, an at least one signal receiver, a security protocol/encryption element, an indicator element, an input/output bus. The at least one sensor can include an at least one VI sensor. The network controlled multiple battery system can be, but is not limited to being, a part of an at least one of a six-volt, a twelve-volt, a fourteen-volt, and a twenty-four volt battery electrical system.

[0082] The invention also includes a further multiple battery system having a battery housing with a common positive terminal and a common negative terminal coupled to an electrical system. A main battery having a main positive output and a main negative output and an at least one auxiliary battery having an auxiliary positive output and an auxiliary negative output are also provided. The system includes an at least one switching device with at least two operating positions, the at least two operating positions selectively engaging said main battery and said

auxiliary battery and having a first operating position of said at least two operating positions, wherein the common positive terminal is coupled to the main positive output and is further coupled to the at least one auxiliary battery output through a one-way charging circuit between and preceding the at least one auxiliary battery and a second operating position of said at least two operating positions which couples the common positive terminal to the auxiliary positive such that the common positive terminal is coupled at a point beyond the one-way charging circuit to the auxiliary battery positive output. The system also includes a controller coupled to and switching the at least one switching device.

[0084] The one-way charging circuit can for instance be, but is not limited to, an at least one one-way charging diode. The at least one one-way charging diode can be, but is not limited to, an at least one silicon rectifier. The at least one one-way charging ~~diode~~ <u>circuit</u> can also be, but is not limited to, an at least one Silicon Controlled Rectifier (SCR).

[0088] The method of the instant invention can also include the ~~the~~ additional method steps of detecting a cycling trigger or flag; switching, upon detection of a trigger or flag, to the at least one auxiliary battery; monitoring the at least one auxiliary battery for discharge, adequate recharge and normal operation; running the electrical system on the auxiliary battery for <u>a</u> period of time; checking the at least one auxiliary battery for discharge through the at least one sensor; and returning the at least one switch<u>ing</u> <u>device</u> back to <u>operating position to</u> engage the main battery.

[0094] Figures 5a and 5b show a top view and a circuit diagram, respectively, of an exemplary embodiment of the instant invention in ~~the~~a storage operational mode.

[0105] The instant invention is directed to a multiple battery system, having a main and an at least one auxiliary battery combination. In a non-limiting exemplary embodiment the instant invention is dimensioned to be a standard twelve-volt battery for auto, truck, marine and machinery applications meeting the original equipment manufacturers specifications. For instance, the non-limiting exemplary embodiment, as shown in Figures 1, 2a and 2b, comprises two twelve two-volt batteries in a single battery housing of conventional size and proportion. The main battery 100 and the standby, auxiliary, or backup battery 200 are contained in the housing 10, as further described herein below. Additional embodiments could include modifications to provide six-volt, twenty-four volt, thirty-six volt, forty-eight volt, seventy-two volt and the like main and/or auxiliary batteries. Additional configurations and variations in the number of batteries, voltage of the batteries, numbers of cells, relative power of each cell, and number of compartments containing the cells can be provided to suit a particular application and would not depart from the aspects of the invention.

[0110] In the exemplary embodiment shown in Figures 1-5, switching device 300 is included in the housing. It selectively electrically couples the main battery 100 ~~and~~ or the auxiliary battery 200 to the electrical system ~~of the vehicle~~. Additional embodiments can vary the number of operating positions or location and placement of the switching device 300. For instance, in additional exemplary embodiments the switching device 300 may be included with an attachment or separate housing containing the circuitry and auxiliary battery 200, as discussed

further in relation to figures 6 and 7 herein below. Furthermore, for the sake of brevity in this description, reference is made to a three-position switching device 300 having first 350, second 360, and tertiary 370 switch positions. The relative number and position of the switch positions as shown can be changed or varied without departing from the inventive aspects of the device. Additionally, the switching of the switching device 300 may be automated through a control mechanism or circuit that senses the condition of the battery system, as further discussed in relation to Figure 8A-8C herein below. Moreover, a periodic discharge system for the multiple battery system of the instant invention can also be added, as further described in relation to Figure 9.

[0114] Figures 3a and 3b show a top view and a circuit diagram, respectively, of an exemplary embodiment of the instant invention in a normal operational mode. Figure 3A shows the device in a first switch position 350. In this first, main, or normal switch position or mode 350, indicated in the circuit diagram of figure 3B at switch position S1, the main battery 100 is electrically coupled to the electrical system and the auxiliary battery 200 is electrically coupled to the electrical system through the one way charging circuit 400. The electrical system (not shown) is coupled to common positive post 310, which in turn is coupled to the switching device 300. The switching device 300, when in the S1 position or normal operating mode 350, connects ~~both~~ the main positive output 110 and via the one way charging circuit 400 the auxiliary positive output 210 ~~via the one way charging circuit 400~~ to the common positive post 310 and, thereby, the electrical system (not shown). Both the main negative output 120 and auxiliary negative output 220 are coupled to the negative output post or terminal 320, which is coupled back to the electrical system (not shown) to complete the connection.

[0115] The two batteries are coupled by a one-way charging circuit 400 that precedes the auxiliary battery 200, as indicated in the circuit diagram of Figure 3B. The one-way charging circuit 400 is a one-way circuit allowing for electricity to pass from the electrical system of the vehicle (not shown) to replenish the auxiliary battery 200. As the electrical system of the vehicle (not shown) is providing the current needed to run all the auxiliary equipment, it is simultaneously, through the one-way charging circuit 400, also providing a full charging voltage to the backup or auxiliary or standby battery 200 as well as preventing any discharge from the backup or auxiliary battery 200. Effectively, the one way charging circuit 400 is a one-way electrical valve permitting electricity to flow in one direction into the auxiliary battery 200 in the main or first switch position 350.

[0117] One exemplary embodiment of the one-way charging circuit 400 is a circuit that includes an at least one one-way charging diode 410. The one-way charging circuit ~~diode 410~~ can also include ~~be~~, in an exemplary embodiment, but is not limited to, an at least one silicone rectifier 410. The at least one silicone rectifier as the at least one one-way charging ~~diode~~ circuit 410 would allow for the full current provided by the electrical system of the vehicle to reach the auxiliary battery 200 for recharging, while generating a minimum heat load and preventing the main battery from draining the auxiliary battery 200. The at least one silicone rectifier 410 can be of any amperage and any voltage as dictated by the amperage and voltage of the electrical system of the application. For instance, silicon rectifiers having amperage ratings of between about twenty-five and ninety-five can be used for example in twelve-volt auto, light truck, and marine systems. A non-limiting example is an exemplary embodiment for conventional twelve-

volt automobiles that, for instance, uses a silicon rectifier having a forty-five amp rating as the one-way charging diode 410 as a part of the one-way charging circuit 400. Similarly, a further exemplary configuration could include an at least one Silicone Controlled Rectifier (SCR) as further described in relation to Figure 8C.

[0121] Figures 5a and 5b show a top down view and a circuit diagram of an exemplary embodiment of the instant invention in a~~n~~ tertiary or storage operational mode. An operator or controller manipulates the switching device 300 to the tertiary, off, or storage position 370, represented by switch position S3 in the circuit diagram of Figure 5B. This position provides for disconnection of both batteries for storage. The S3 position disconnects the main positive output 110 and the auxiliary positive output 210 from the common positive terminal 310 and, thereby, the electrical system of the vehicle or equipment. This is useful if the vehicle or equipment is being placed in storage for instance or if the battery is being stored.

[0122] Figures 6 and 7 show isometric views of alternate exemplary embodiments of the instant invention employed as an auxiliary battery attachment for existing main batteries. In the further exemplary embodiment depicted in Figure 6, the circuitry, switching device 300, and auxiliary battery 200 are provided as a "backpack" battery attachment system.

[0125] The exemplary embodiment shown includes a similar one-way charging circuit~~s~~ 400, that can include an at least one one-way charging diode or rectifier 4~~0~~10 and similar switched circuit configurations with positions S1, S2 and S3, as described in relation to Figures 3b, 4b, and 5b. Similar amperage ratings and voltages for various applications can be utilized in the exemplary

embodiments of the attachment system. This provides similar functionality from the attachment system embodiments of the instant invention. The positions would include a first, main, or normal operating mode or position 350 in which the vehicle or equipment operates off the main battery 1000, which is always receiving a charge from the electrical system of the vehicle or equipment and charging the auxiliary battery 200; a secondary or auxiliary position 360, where the auxiliary battery 200 would be engaged as the sole source of electrical power for the vehicle or device; and a tertiary or storage position 370. The second or auxiliary switch position 360 would be used for emergency back up when needed to start and or operate the vehicle when the main battery 1000 is incapable of starting or operating the vehicle, equipment, or machinery. Thus the attachment device would provide a retrofit version of the instant invention, requiring no modification or conversion of existing vehicle or machinery electrical systems, while providing identical performance to the exemplary embodiments of the multiple battery system.

[0128] The controller 700 monitors and detects various operating conditions of the batteries through the at least one sensor. The at least one sensor can include, but is not limited to, any of an at least one main battery, an at least one auxiliary battery, and at least one switch sensor or any additional sensors that may be appropriate. The controller 700 can continuously or selectively monitor for example, but not limited to, any of the following parameters with any of the at least one main, auxiliary, or switch sensors: the auxiliary battery voltage, the main battery voltage, the auxiliary battery amperage, the main battery amperage, temperature, vibration, current, the switch state, the switch position, and the condition of various flags and various timers within the system or similar parameters. In the exemplary embodiment of Figure 8A, an at least one main battery sensor is provided. The at least one main battery sensor is shown as two

main battery sensors 710,720. These measure the voltage through main battery sensor 710 and the amps through main battery sensor 720 of the main battery 100. Also in the exemplary embodiment shown, an at least one auxiliary battery sensor is provided. The at least one auxiliary battery sensor is shown as two auxiliary sensors 730, 740. These measure the voltage, through auxiliary sensor 730, and the amperage, through auxiliary sensor 740, of the auxiliary battery 200. Additionally in the exemplary embodiment of Figure 8B, an at least one switch position sensor 750 can be provided to sense the position and condition of the switching device 300.

[0133] Figure 8C shows an electrical schematic of a still further embodiment of the instant invention. In the embodiment of Figure 8C the charging circuit includes an at least on Silicon Controlled Rectifier (SCR) 4000 to provide added safety and longevity for the auxiliary battery 200. The embodiment utilizes a configuration similar to that of Figure 8B, save for the use of the SCR 4000. The SCR 4000 communicates with the controller 700. The at least one sensor includes auxiliary sensor 740. If the auxiliary battery 200 is being overcharged, based on the auxiliary sensor 740 input, the SCR 4000 as part of the charging circuit can be shut down by the controller 700 effectively shutting off the circuit pathway to the auxiliary battery 200, thus uncoupling the auxiliary battery 200 from the system in a controlled manner. This provides an additional factor of safety by preventing overcharge of the auxiliary battery 200 in the exemplary embodiment disclosed. Allowing for shutdown if an overcharge condition exists also improves the longevity of the auxiliary battery 200.

[0144] A "network" refers to a number of controllers, computers, programmable logic devices, and/or network controllers and associated devices that are connected by a communication system and communication facilities to allow for communication. A network may involve permanent connections such as cables or other terrestrial components or temporary connections such as those made through telephone, satellite, cellular systems, radio frequency transceivers, or other wireless communication links. Examples of networks include: a cellular communications network, radio frequency networks, wireless data networks, an internet - such as the Internet; an intranet, a local area network (LAN); a wide area network (WAN); a controller area network (CAN), local interconnect network (LIN) and a combination of networks, such as an internet and an intranet. This includes specialized data monitoring networks, such as ONSTAR™ and similar services.

[0146] Appropriate actions are taken to conserve power and notify the operator of the steps taken. For instance, all non-essential auxiliary electric devices may be shut down by the NOC 5010. The NOC 5010, either after a response from an operator or upon its own volition, can switch the battery to the auxiliary battery 200 through switch position S2 to facilitate the power requirements of the electrical system. The operator or the NOC 5010 can then confirm a satisfactory battery system condition. Alternatively, if used in a switched network of batteries, such as in solar generation systems, verification can be used in setting the charging status of the system or in determining appropriate service needed for such an application.

[0148] Figure 11A shows a flow chart of the operational steps for an exemplary embodiment of the controller in the instant invention. In step 2000, the controller, wireless controller, or network interfaced controller polls the at least one sensor to determine the condition of a main battery. In

step 2100, a decision is made via the processing logic to determine if an abnormal operating parameter(s) is being reported on the main battery. If no abnormal operating parameters are present, the next step follows the negative branch of the decision loop and returns to step 2000. The repetition may include a delay between successive polling steps 2000 or additional sensing steps for additional sensors. In the operation of the exemplary embodiment of the invention with a network interfaced controller described in Figure 11A, the network interfaced controller can also immediately report or periodically report the normal operating status that is a result of the polling step 2000 via the network to the NOC. However, if an abnormal operating parameter is identified, the process moves along the affirmative branch of the decision loop to step 2200. At step 2200, the controller signals the operator or transmits to the NOC that an abnormal battery condition, for instance a low battery voltage, has been detected.

[0153] If no triggering event has occurred, then the negative branch is followed and the controller loops back to step 2000. If a triggering even is found, the controller at step 6100 switches the switching device into the auxiliary operating mode at S2 and switch to the auxiliary battery, as discussed previously. At step 6200, the controller then monitors for adequate charge and operation of the auxiliary battery. The system then continues to step 6400, running the electrical system on the auxiliary battery. At method step 6500, the system checks discharge level of the auxiliary battery. After checking for discharge, the controller at step 6500 checks for the recharge of the auxiliary battery. The amount of recharging can be set by the controller for a predetermined time or amount of energy. After recharging battery at step 6500, the system switches back to a normal operating position at step 6600. The controller then loops back to the polling step 2000 and begins the method again.